**Curriculum Plan: B. Sc. (Hons) Mathematics (Semester VI)- DSE-4(i): NUMBER THEORY.**

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| **DR. ABHISHEK KR SINGH**Assistant ProfessorDepartment of MathematicsKalindi CollegeUniversity of DelhiDelhi- 110008Mobile: +91-8375834510**E- mail**: abhishek@kalindi.du.ac.in | C:\Users\Abhishek\Pictures\2014-05-28 002\photo.jpg | **Marks Distribution**  | **Theory** -75  |
| **Internal Assessment-25** |
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| **Classes Assigned** | **Lectures: 3 per week.** |
|  | **References.** | **David M. Burton, Elementary Number Theory (7th Edition), Tata McGraw-Hill Edition, Indian Reprint, 2007.****Neville Robinns, Beginning Number Theory (2nd Edition), Narosa Publishing House Pvt. Limited, Delhi, 2007** |
|  | **Week** | **Topics** |
|  | **1st week**JAN 2-7 | Linear Diophantine equation. |
| **2nd week**JAN 9-14 | Prime counting function. Statement of prime number theorem. |
| **3rd week**JAN 16-21 | Goldbach conjecture.  |
| **4th week**JAN 23-28 | Complete set of residues.  |
| **5th week**JAN 30- FEB 4 |

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Linear congruence. |
| **6th week**FEB 6-11 | Chinese remainder theorem. |
| **7th week**FEB 13-18 | Fermat’s little theorem. |
| **8th week**FEB 20-25 | Wilson’s theorem. |
| **9th week**FEB 27- MARCH 4 | The legendre symbol and its properties. |
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|  | **10th week**MARCH 13-18 | Quadratic reciprocity. |
| **11th week**MARCH 20-25 | Quadratic congruences with composite moduli. |
|  | **12th week**MARCH 27- APRIL 1 | Public key encryption. |
| **13th week**APRIL 3-8 | RSA encryption and decryption. |
| **14th week**APRIL 10-15 | The equation x2+y2=z2. |
| **15th week**APRIL 15-22 | Fermat’s last theorem. |
|  **APRIL 24-29- REVISION** |